

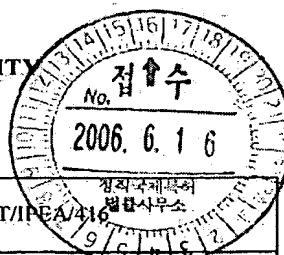
PATE COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)



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|---|--|--|-----------------------|
| Applicant's or agent's file reference CJ05001 | FOR FURTHER ACTION | | See Form PCT/IPEA/416 |
| International application No. PCT/KR2005/000529 | International filing date (day/month/year) 25 FEBRUARY 2005 (25.02.2005) | Priority date (day/month/year) 25 FEBRUARY 2004 (25.02.2004) | |

International Patent Classification (IPC) or national classification and IPC

B63C 7/00(2006.01)i, B67D 5/04(2006.01)i, B65G 65/34(2006.01)i, B63C 11/40(2006.01)i

Applicant

KOREA OCEAN RESEARCH AND DEVELOPMENT INSTITUTE et al

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| <p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> |
| <p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p> |

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| Date of submission of the demand 26 SEPTEMBER 2005 (26.09.2005) | Date of completion of this report 14 JUNE 2006 (14.06.2006) |
| Name and mailing address of the IPEA/KR Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140 | Authorized officer PARK, SUNG WOO Telephone No. 82-42-481-8140 |

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/KR2005/000529

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:
 - international search (under Rules 12.3 and 23.1(b))
 - publication of the international application (under Rule 12.4)
 - international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
 - the international application as originally filed/furnished
 - the description:
pages _____ received by this Authority on _____ as originally filed/furnished
pages* _____ received by this Authority on _____
 - the claims:
pages _____ as originally filed/furnished
pages* _____ as amended (together with any statement) under Article 19
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
 - the drawings:
pages _____ as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
 - the sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. The amendments have resulted in the cancellation of:
 - the description, pages _____
 - the claims, Nos. _____
 - the drawings, sheets _____
 - the sequence listing (*specify*) : _____
 - any table(s) related to sequence listing (*specify*) : _____
4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - the description, pages _____
 - the claims, Nos. _____
 - the drawings, sheets _____
 - the sequence listing (*specify*) : _____
 - any table(s) related to sequence listing (*specify*) : _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/KR2005/000529

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|--------|-------|-----|
| Novelty (N) | Claims | 1 - 7 | YES |
| | Claims | None | NO |
| Inventive step (IS) | Claims | 1 - 7 | YES |
| | Claims | None | NO |
| Industrial applicability (IA) | Claims | 1 - 7 | YES |
| | Claims | None | NO |

2. Citations and explanations (Rule 70.7)

Reference is made to the following document :

D1: US 5775390 A (MOHN) 7 July 1998
 D2: US 3831387 A (ROLLEMAN) 27 August 1974

D1 relates to an apparatus for extracting fluent material from a container, which is to remove oil or toxic fluid from a submerged or sunken container, e.g. a tank in a sunken ship. Said apparatus has means for locating and securing the apparatus against a wall of such a container, means for forming an aperture in the wall, means for extracting the fluid through the aperture, and closure means for the aperture. Said apparatus has two parts, a first upper module comprising driving means and drilling or milling means for making an aperture in the wall, and a second lower module comprising closure means operable mechanically or hydraulically by the first module.

D2 relates to an apparatus for salvaging oil from sunken vessels, comprising: means for securely but detachably fixing a capsule in the decking or hull of the vessel in proximity to the compartment from which oil is to be salvaged; drill means for providing access to the compartment through one or more openings; extensible oil suction pipe means for insertion into the compartment through the opening; first pump means for removing oil from the ship compartment into a holding chamber within the capsule; and second pump means for removing oil from the holding chamber to the surface where it may be held in suitable storage such as balloons or salvage tankers.

(Continued on Supplemental Sheet.)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Supplemental Box**In case the space in any of the preceding boxes is not sufficient.**

Continuation of:

Box V.

(1) Novelty (N) and Inventive Step (IS)

The present invention relates to a remotely controlled apparatus for transporting liquid, such as oil, toxic chemicals, or the like, in a tank of a sunken ship to a floating body, without leakage, and to a method for recovering the liquid in a sunken ship using the apparatus. An underwater recovery device of the apparatus includes: a supporting frame, to which a plurality of devices including a linkage are fixed; chucking devices for fixing the underwater recovery device to the sunken ship; a grabber for attaching the base plate to the supporting frame; DTB (drilling, tapping and bolting) systems for attaching the base plate to the sunken ship; thrusters for providing a propulsive force so as to attach the supporting frame to the sunken ship; a hole cutter for drilling a hole for the recovery of the liquid; and a liquid recovery device for recovering the liquid through the hole drilled in the sunken ship.

The apparatus of claim 1, which is characterized by the linkage (111) for supporting strongly the underwater recovery device (100) and the chucking devices (20) for fixing the underwater recovery device (100) to the sunken ship (500), is not obvious from the prior art, and there is a striking difference between said apparatus and the inventions of D1 and D2.

The method of claim 7, which is characterized by a preparation step (S1) and a finishing step (S4), is also not obvious from the prior art, and there is a striking difference between said method and the inventions of D1 and D2.

Therefore, the subject-matter of claims 1 and 7 is considered to be novel (PCT Article 33(2)) and to involve an inventive step (PCT Article 33(3)).

Claims 2 to 6 comply with the requirements of PCT Article 33(2) and 33(3) as they are dependent on claim 1.

(2) Industrial Applicability (IA)

It is considered that the present invention is industrially applicable to a remotely controlled apparatus and a method for recovering liquid in a sunken ship.

Therefore, claims 1 to 7 meet the requirement of PCT Article 33(4).